



## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>T 59004 WO (DT/GL)</b>	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. <b>PCT/EP2004/000056</b>	International filing date ( <i>day/month/year</i> ) <b>08 January 2004 (08.01.2004)</b>	Priority date ( <i>day/month/year</i> ) <b>15 January 2003 (15.01.2003)</b>	
International Patent Classification (IPC) or national classification and IPC <b>E21B 28/00</b>			
Applicant <b>STEINBRECHER, Alexander</b>			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the report</li> <li><input type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul>
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Date of submission of the demand <b>28 August 2004 (28.08.2004)</b>	Date of completion of this report <b>21 April 2005 (21.04.2005)</b>
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/000056

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:

- international search (under Rules 12.3 and 23.1(b))
- publication of the international application (under Rule 12.4)
- international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

The international application as originally filed/furnished

the description:

pages \_\_\_\_\_ 1-9 \_\_\_\_\_, as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

pages \_\_\_\_\_ 1-8 \_\_\_\_\_, as originally filed/furnished

pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19

pages\* \_\_\_\_\_ received by this Authority on 12 November 2004 (12.11.2004)

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:

pages \_\_\_\_\_ 1/3-3/3 \_\_\_\_\_, as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_

the claims, Nos. \_\_\_\_\_

the drawings, sheets/figs \_\_\_\_\_

the sequence listing (*specify*): \_\_\_\_\_

any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_

the claims, Nos. \_\_\_\_\_

the drawings, sheets/figs \_\_\_\_\_

the sequence listing (*specify*): \_\_\_\_\_

any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.

PCT/EP2004/000056

**Box No. VII Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

see supplemental sheet

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/EP2004/000056

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims <u>1-11</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims <u>1-11</u>	YES
	Claims _____	NO
Industrial applicability (IA)	Claims <u>1-11</u>	YES
	Claims _____	NO

## 2. Citations and explanations (Rule 70.7)

1. DE-19932593 (D1) discloses a method for intensifying the permeability of bottom layers that are close to bore holes and of filter bodies and filter layers in the underground exploitation area of wells and other exploitation wells, in which method liquid is pumped away in the exploitation area of the bore hole using a pump (column 4, lines 53 and 54), the liquid which is thus displaced is successively impinged upon (column 4, lines 43-45) with hydraulic energy pulses in the direction of the bore hole walls, filter bodies and filter layers by the continuous up and down movement of a pulse generator (pressure vessel 9 and valve 10 form a pulse generator) in the exploitation area and the effect of each energy pulse is evaluated (13) by means of measurements and the parameters of the following energy pulse are determined on the basis of the evaluation of the measuring results of the previous energy pulse (claim 5).

The subject matter of claim 1 differs from the disclosure of document D1 in that the liquid is

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International application No.  
PCT/EP2004/000056

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  
continuously pumped away in the exploitation area of the bore hole using an underground pump and in that the measurements are seismic measurements.

The pressure measurements in D1 serve the same purpose as the seismic measurements in claim 1 and therefore an inventive step cannot be acknowledged with respect to this technical feature.

The technical feature of the continuously pumping underground pump, however, is neither disclosed (in D1 the suction head 14 of a pump that is not shown and which does not pump continuously opens into the working area 5; see column 4, lines 53-58) nor suggested by the remaining prior art (a person skilled in the art would not use the pump 17 known from DE-19913239 (D2) in D1, since there is already a pump in D1, although it does not pump continuously) and can be used for the stabilised, continuous and therefore economical exploitation of the bore hole or well.

The subject matter of claim 1 thus meets the requirements for novelty and inventive step pursuant to PCT Article 33(2) and (3).

2. The subject matter of claim 7 also meets the requirements of PCT Article 33(2) and (3), since a continuously operating underground pump is not known from the prior art and this technical feature of the continuously operating pump, owing to the dependency of claim 7 on method claims 1

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.  
PCT/EP2004/000056

**Box No. V**

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

to 4, belongs to the scope of protection of  
claim 7.

3. Dependent claims 2-6 and 8-11 also meet the PCT requirements for novelty and inventive step.

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.  
PCT/EP2004/000056

**Box No. VII      Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

The two-part form of the claims with reference to  
D1 is incomplete (PCT Rule 6.3(b)(i) and (ii)).